WHAT IS CLAIMED IS:

1. A control procedure for use during a regulation stage and according to a set point of a physical dynamic system, the set point being subject to, whilst operating, the influence of several physical quantities represented by input parameters, and adopting a behavior defined by at least a first physical output parameter, obliged to take a value represented by the set point, the first output parameter being linked to at least a first of the input parameters by a first transfer function of the system, said control procedure comprising:

implementing a characterization stage, prior to the regulation stage, in which at least a first inverse transfer function linking the first input parameter to the first output parameter is experimentally determined; and

implementing a modeling stage, posterior to the characterization stage and prior to the regulation stage, in which the first inverse transfer function is translated through a fuzzy logic model in the form of a first set of ranges of the first output parameter, to each of which is attributed a specific value of the first input parameter; and

implementing the regulation stage by determining a membership of the set point to one of the ranges of the first set, deducing from the membership and from the fuzzy logic model an estimated value of the first input parameter corresponding to the desired equality between the first output parameter and the set point, producing a measured value of the first input parameter, and regulating the first input parameter according to a difference between the estimated value and the measured value of the first input parameter.

2. The control procedure according to claim 1,

wherein the physical system is an electrical device that is supplied by a supply voltage with a nominal or efficient value at least substantially constant, and

the first input parameter represents a supply current of the device.

3. The control procedure according to claim 2, wherein the supply current of the device is regulated in terms of average value by cyclical modulation.

4. The control procedure according to claim 2, wherein the physical system is an electric motor.

5. The control procedure according to claim 4, wherein the first output parameter is the rotation speed of the motor.

6. The control procedure according to claim 2, further comprising implementing a safety procedure that includes comparing a supply current measurement with a pre-set threshold, and interrupting the supply of the electrical device when the supply current measurement exceeds the threshold.

7. The control procedure according to claim 1, further comprising implementing an integration stage, intermediary between the modeling stage and the regulation stage, in which the first inverse transfer function, translated in the form of the first set of ranges, is memorized in an integrated circuit that includes means for fuzzy logic calculation.

8. A control procedure for use during a regulation stage and according to a set point of a physical dynamic system, the set point being subject to, whilst operating, the influence of several physical quantities represented by input parameters, and adopting a behavior defined by at least a first physical output parameter, obliged to take a value represented by the set point, the first output parameter being linked to at least a first of the input parameters by a first transfer function of the system and a second of the input parameters by a second transfer function of the system, said control procedure comprising:

implementing a characterization stage, prior to the regulation stage, in which at least a first inverse transfer function linking the first input parameter to the first output parameter is experimentally determined, and at least a second inverse transfer function linking the second input parameter to the first output parameter is experimentally determined; and

implementing a modeling stage, posterior to the characterization stage and prior to the regulation stage, in which the first inverse transfer function is translated through a fuzzy logic model in the form of a first set of ranges of the first output parameter to each of which is attributed a specific value of the first input parameter, and the second inverse transfer function is translated through the fuzzy logic model in the form of a second set of ranges of the first output parameter to each of which is attributed a specific value of the second input parameter; and

implementing the regulation stage by determining a membership of the set point to one of the ranges of the first set and a membership of the set point to one of the ranges of the second set, deducing from the membership and from the fuzzy logic model an estimated value of the first input parameter corresponding to the desired equality between the first output parameter and the set point and an estimated value of the second input parameter corresponding to the desired equality between the first output parameter and the set point, producing a measured value of the first input parameter and a measured value of the second input parameter, and regulating the first input parameter according to a difference between the estimated value and the measured value of the first input parameter and according to a difference between the estimated value and the measured value of the second input parameter.

9. The control procedure according to claim 8,

wherein the physical system is an electrical device that is supplied by a supply voltage with a nominal or efficient value at least substantially constant,

the first input parameter represents a supply current of the device, and

the second input parameter represents the supply voltage of the device.

10. The control procedure according to claim 8, further comprising:

implementing an integration stage, intermediary between the modeling stage and the regulation stage, in which the first inverse transfer function, translated in the form of the first set of ranges, is memorized in an integrated circuit that includes means for fuzzy logic calculation,

wherein, during the integration stage, the second inverse transfer function, translated in the form of the second set of ranges, is memorized in the same integrated circuit.

11. The control procedure according to claim 8,

wherein the physical system is an electrical device that is supplied by a supply voltage with a nominal or efficient value at least substantially constant, and

the first input parameter represents a supply current of the device.

12. The control procedure according to claim 11, wherein the supply current of the device is regulated in terms of average value by cyclical modulation.

13. The control procedure according to claim 11, wherein the physical system is an electric motor.

14. The control procedure according to claim 13, wherein the first output parameter is the rotation speed of the motor.

15. The control procedure according to claim 11, further comprising implementing a safety procedure that includes comparing a supply current measurement with a pre-set threshold, and interrupting the supply of the electrical device when the supply current measurement exceeds the threshold.

16. The control procedure according to claim 8, further comprising implementing an integration stage, intermediary between the modeling stage and the regulation stage, in which the first inverse transfer function, translated in the form of the first set of ranges, is memorized in an integrated circuit that includes means for fuzzy logic calculation.